

PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To:
STUDIO TORTA S.R.L.
Attn. Jorio, Paolo
Via Viotti, 9
I-10121 Torino
ITALY

PCT
RECOMMANDÉ
INVITATION TO PAY ADDITIONAL FEES
AANGEPKEND
(PCT Article 17(3)(a) and Rule 40.1)

Date of mailing
(day/month/year) 26/05/2004

Applicant's or agent's file reference
E-1837/03

PAYMENT DUE
within 30 ~~XXX~~ days
from the above date of mailing

International application No.
PCT/IT 03/00568

International filing date
(day/month/year) 24/09/2003

Applicant

SO.L.E.S. - SOCIETA' LAVORI EDILI E SERBATOI ...

1. This International Searching Authority

(i) considers that there are 5 (number of) inventions claimed in the international application covered by the claims indicated ~~XXX~~ on the extra sheet:

and it considers that the international application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated ~~XXX~~ on the extra sheet:

(ii) ☒ has carried out a partial international search (see Annex) ☐ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:
see annex

(iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid


2. The applicant is hereby **invited**, within the time limit indicated above, to pay the amount indicated below:

EUR 1.550,00 x 4 = EUR 6.200,00
Fee per additional invention number of additional inventions total amount of additional fees

Or, _____ x _____ = _____

The applicant is informed that, according to Rule 40.2(c), the payment of any additional fee may be made under protest, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☐ Claim(s) Nos. _____ have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the International Searching Authority
 European Patent Office, P.B. 5818 Patentlaan 2
NL-2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Jacqueline van Ekelenburg

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-93,113

A Method of constructing a pile foundation and a metal pile, whereby the transverse dimensions of the head of the pile are greater than the hole through which it is inserted

2. claims: 94-110,114

A Method of constructing a pile foundation and a metal pile, whereby the head of the pile is pointed

3. claims: 111,112

A Method of constructing a pile foundation, whereby use is made of an auxiliary pile

4. claim: 115

A metal pile comprising a rod with variable thickness and/or shape

5. claims: 116-118

A metal pile comprising a rod and a jacket of cement around the rod

The application relates to a plurality of inventions, or groups of inventions. They were divided into 5 groups as defined above.

US-A-5234287 discloses a method of constructing a pile foundation, whereby a metal pile is inserted through a hole in the foundation structure and the driven pile is axially connected to the foundation structure. The use of an existing foundation structure falls within the terms of the preamble of claim 1 "build on the ground a foundation structure", cf. description p.6, 1.1-4 "... foundation structure 1 may be built either entirely, or from an existing structure in which, for example, holes are formed."

The differences over the prior art of the following claims are considered to be the special technical features within the meaning of Rule 13(2) PCT.

- The contribution of claim 1 over US-A-5234287 is that the transverse dimensions of the main head are greater than those of the hole when driving the main head into the ground(, solving the problem of impairing the capacity of the foundation structure with a larger hole in said

structure).

- The contribution of claim 94 over the same prior art is that the main head is pointed(, solving the problem of decreasing the resistance while driving the pile).
- The contribution of claim 111 over the same prior art is driving and removing an auxiliary pile once the foundation is completed(, solving the problem of temporary support for the foundation structure).
- The contribution of claim 115 over the same prior art is that the rod differs in thickness and/or shape along the longitudinal axis of the pile(, solving the problem of design / price related issues.) (*)
- The contribution of claim 116 over the same prior art is that the rod is surrounded by a jacket of cement and the transverse dimension of the jacket differing along the longitudinal axis of the pile(, solving the problem of enlarging the bearing capacity of the pile). (*)

(*) These respective contributions are design choices, which are independent from the size of the hole (the thickness and/or shape of the rod and the use of a jacket of cement can be selected without restriction for a certain hole which is larger than the main head, contrary to the special technical features of claim 1). Therefore the special technical features of claims 115 and 116 do not correspond to the same solution, nor are these claims directed to the same problem underlying claim 1.

In conclusion, no common special technical features could be identified in any of the independent claims 1,94,111,115 and 116. Furthermore, these claims are directed at unrelated problems, therefore none of the special technical features are corresponding. Consequently, the groups of claims are not linked so as to form a single general inventive concept and the criteria set out in Rule 13(1) PCT are not fulfilled.

**Annex to Form PCT/ISA/206
COMMUNICATION RELATING TO THE RESULTS
OF THE PARTIAL INTERNATIONAL SEARCH**

International Application No

PCT/IT 03/00568

1. The present communication is an Annex to the invitation to pay additional fees (Form PCT/ISA/206). It shows the results of the international search established on the parts of the international application which relate to the invention first mentioned in claims Nos.:
see 'Invitation to pay additional fees'
2. This communication is not the international search report which will be established according to Article 18 and Rule 43.
3. If the applicant does not pay any additional search fees, the information appearing in this communication will be considered as the result of the international search and will be included as such in the international search report.
4. If the applicant pays additional fees, the international search report will contain both the information appearing in this communication and the results of the international search on other parts of the international application for which such fees will have been paid.

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category ° | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|---|-----------------------|
| X | US 5 234 287 A (RIPPE JR DONDEVILLE M) 10 August 1993 (1993-08-10) abstract; figure 1 | 113 |
| A | | 1 |
| A | US 3 786 641 A (TURZILLO L) 22 January 1974 (1974-01-22) abstract; figures 4,5,7,8 | 1,113 |

☐ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

° Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

- "T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- "X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Patent Family Annex

Information on patent family members

International Application No

PCT/IT 03/00568

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|--|---------------------|----------------------------|---------------------|
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|------------|---|------------|------|--|
| US 5234287 | A | 10-08-1993 | NONE | |
|------------|---|------------|------|--|

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|------------|---|------------|------|--|
| US 3786641 | A | 22-01-1974 | NONE | |
|------------|---|------------|------|--|